

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) A computer-readable storage medium with computer-readable instructions, the computer-readable storage medium comprising:

instructions for an operating system, the operating system configured to effectuate a user mode and a kernel mode, the operating system comprising a file system integrated with a database management program, the operating system configured to store, while in kernel mode, data in the file system as file streams, and generate, while in kernel mode, Items associated with the file streams in the database management program, the Items interconnected by a plurality of Relationships managed by said database management program of the operating system, each of said Items having a boundary comprising an item type, applicable subtype information, complex type properties and extensions if any, and a list of the other Items owned by the Item and paths to the file streams stored in the file system, further wherein the list of other Items owned by the Item identifies other Items the Item extends an owning relationship to, further wherein an Item that extends an owning relationship controls at least the life time of the relationship; and

instructions for the database management program of the operating system to generate, while in kernel mode, the owning relationship extending from a first Item to a second Item, wherein an owning relationship extending from the first Item to the second Item denotes to said database management program of the operating system that a file stream associated with said second Item is publicly accessible to said first Item, and a lack of an owning relationship extending back from said second Item to said first Item denotes to said database management program of the operating system that a file stream associated with said first Item is inaccessible to said second Item.

2. (Canceled)

3. (Previously Presented) The computer-readable medium of claim 1 wherein the Relationship from said first Item to said second Item logically denotes in said database management program of the operating system that said second Item is public and accessible to said first Item.

4. (Previously presented) The computer-readable medium of claim 1 wherein said first Item is an Item Folder.

5. (Original) The computer-readable medium of claim 4 wherein said second Item is an Item Folder.

6. (Original) The computer-readable medium of claim 4 wherein said second Item is a Category.

7. (Original) The computer-readable medium of claim 4 wherein said second Item is an Item that is not an Item Folder or a Category.

8. (Previously presented) The computer-readable medium of claim 1 wherein said first Item is a Category.

9. (Original) The computer-readable medium of claim 8 wherein said second Item is an Item Folder.

10. (Original) The computer-readable medium of claim 8 wherein said second Item is a Category.

11. (Original) The computer-readable medium of claim 8 wherein said second Item is an Item that is not an Item Folder or a Category.

12. (Previously presented) The computer-readable medium of claim 1 wherein said first Item is an Item that is not an Item Folder or a Category.

13. (Original) The computer-readable medium of claim 12 wherein said second Item is an Item Folder.

14. (Original) The computer-readable medium of claim 12 wherein said second Item is a Category.

15. (Original) The computer-readable medium of claim 12 wherein said second Item is not an Item Folder or a Category.

16. (Previously presented) The computer-readable medium of claim 1 wherein said second Item is an Item Folder.

17. (Previously presented) The computer-readable medium of claim 1 wherein said second Item is a Category.

18. (Previously presented) The computer-readable medium of claim 1 wherein said second Item is an Item that is not an Item Folder or a Category.

19-32. (Canceled)

33. (Previously presented) The computer-readable medium of claim 12 wherein said second Item has a Relationship to said first Item.

34. (Previously presented) The computer-readable medium of claim 33 wherein said Relationship from said first Item to said second Item logically denotes in said database management program of the operating system that the file stream associated with said second Item is public and accessible to said first Item, and wherein said Relationship from said second Item to said first Item logically denotes in said database management program of the operating system that said file stream associated with the first Item is public and accessible to said second Item.

35-38. (Canceled)

39. (Original) The computer-readable medium of claim 33 wherein said first Item is a Category.

40. (Original) The computer-readable medium of claim 39 wherein said second Item is an Item Folder.

41. (Original) The computer-readable medium of claim 39 wherein said second Item is a Category.

42. (Original) The computer-readable medium of claim 39 wherein said second Item is an Item that is not an Item Folder or a Category.

43. (Original) The computer-readable medium of claim 33 wherein said first Item is an Item that is not an Item Folder or a Category.

44. (Original) The computer-readable medium of claim 43 wherein said second Item is an Item Folder.

45. (Original) The computer-readable medium of claim 43 wherein said second Item is a Category.

46. (Original) The computer-readable medium of claim 43 wherein said second Item is not an Item Folder or a Category.

47. (Original) The computer-readable medium of claim 1 wherein each Item from among said Items has a Relationship to at least one other Item.

48. (Original) The computer-readable medium of claim 1 wherein a subset of Items comprise Item Folders.

49. (Original) The computer-readable medium of claim 1 wherein a subset of Items comprise Categories.

50. (Original) The computer-readable medium of claim 1 wherein a subset of Items comprise Items that are not Item Folders or Categories.

51. (Previously presented) A computer system, the computer system comprising:
hardware including a computer readable storage medium;
instructions for an operating system stored in the computer readable storage medium, the operating system configured to manage the hardware, the operating system comprising a file system integrated with a database management program, a first portion of the operating system configured to operate in a user mode and a second portion of the operating system configured to operate in a kernel mode;

the operating system further configured to store, while in kernel mode, data in the file system as file streams, and generate, while in kernel mode, Items associated with the file streams in the database management program of the operating system, the Items

interconnected by Relationships, each of said Items having a boundary comprising an item type, applicable subtype information, complex type properties and extensions if any, and a list of the other Items owned by the Item and paths to the file streams stored in the file system, further wherein the list of other Items owned by the Item identifies other Items the Item extends an owning relationship to, further wherein an Item that extends an owning relationship controls at least the life time of the relationship; and

the database management program of the operating system configured to generate, while in kernel mode, an owning relationship extending from a first Item to a second Item, wherein the owning relationship extending from the first Item to the second Item denotes to said database management program of the operating system that a file stream associated with said second Item is publicly accessible to said first Item, and a lack of an owning Relationship extending back from said second Item to said first Item denotes to said database management program of the operating system that a file stream associated with said first Item is inaccessible to said second Item.

52. (Canceled)

53. (Previously presented) The database management program of the operating system of claim 51 wherein the Relationship from said first Item to said second Item logically denotes in said database management program of the operating system that said file stream associated with the second Item is public and accessible to said first Item.

54. (Previously presented) The database management program of the operating system of claim 51 wherein said first Item is an Item Folder.

55. (Previously presented) The database management program of the operating system of claim 51 wherein said first Item is a Category.

56. (Previously presented) The database management program of the operating system of claim 51 wherein said first Item is an Item that is not an Item Folder or a Category.

57. (Previously presented) The database management program of the operating system of claim 51 wherein said second Item is an Item Folder.

58. (Previously presented) The database management program of the operating system of claim 51 wherein said second Item is a Category.

59. (Previously presented) The database management program of the operating system of claim 51 wherein said second Item is an Item that is not an Item Folder or a Category.

60.–61. (Canceled)

62. (Previously presented): The database management program of the operating system of claim 51 wherein said second Item has a Relationship to said first Item.

63. (Previously presented) The database management program of the operating system of claim 62 wherein said Relationship from said first Item to said second Item logically denotes in said database management program of the operating system that said file stream associated with the second Item is public and accessible to said first Item, and wherein said Relationship from said second Item to said first Item logically denotes in said database management program of the operating system that said file stream associated with the first Item is public and accessible to said second Item.

64. (Previously presented) The database management program of the operating system of claim 51 wherein each Item from among said Items has a Relationship to at least one other Item.

65. (Previously presented) The database management program of the operating system of claim 51 wherein a subset of Items comprise Item Folders.

66. (Previously presented) The database management program of the operating system of claim 51 wherein a subset of Items comprise Categories.

67. (Previously presented) The database management program of the operating system of claim 51 wherein a subset of Items comprise Items that are not Item Folders or Categories.

68. (Previously presented) A method for organizing data in a computer system, the method comprising:

receiving, from an application operating in user space of an operating system, a request to save data to a file system, wherein the operating system comprises the file system and the file system is integrated with a database management program;

saving, by the operating system while in kernel mode, the data to the file system a file stream;

generating, by the database management program while in kernel mode, an Item, associated with the file stream each Item stored in the database management program having a boundary comprising an item type, applicable subtype information, complex type properties and extensions if any, and a list of the other Items owned by the Item and paths to associated file streams stored in the file system, further wherein the list of other Items owned by the Item identifies other Items the Item extends an owning relationship to, further wherein an Item that extends an owning relationship controls at least the life time of the relationship; and

generating, by the database management program while in kernel mode, an owning relationship extending from a first Item to a second Item, wherein the owning relationship extending from the first Item to the second Item denotes to said database management program that a file stream said second Item is publicly accessible to said first Item, and a lack of an owning relationship extending back from said second Item to said first Item denotes to said database management program that a file stream said first Item is inaccessible to said second Item.

69. (Canceled)

70. (Previously presented) The method of claim 68 further comprising the step of denoting in database management program that, due to said Relationship, said second Item is public and accessible to said first Item.

71. (Previously presented) The method of claim 68 wherein said first Item is an Item Folder.

72. (Previously presented) The method of claim 68 wherein said first Item is a Category.

73. (Previously presented) The method of claim 68 wherein said first Item is an Item that is not an Item Folder or a Category.

74. (Previously presented) The method of claim 68 wherein said second Item is an Item Folder.

75. (Previously presented) The method of claim 68 wherein said second Item is a Category.

76. (Previously presented) The method of claim 68 ~~69~~ wherein said second Item is an Item that is not an Item Folder or a Category.

77.–78. (Canceled)

79. (Previously presented) The method of claim 68 further comprising the step of extending a Relationship from said second Item to said first Item

80. (Previously presented) The method of claim 79 wherein said Relationship from said first Item to said second Item logically denotes in said database management program that said file stream associated with the second Item is public and accessible to said first Item, and wherein said Relationship from said second Item to said first Item logically denotes in said database management program that said file stream associated with the first Item is public and accessible to said second Item.

81. (Original) The method of claim 68 wherein each Item from among said Items has a Relationship to at least one other Item.

82. (Original) The method of claim 68 wherein a subset of Items comprise Item Folders.

83. (Original) The method of claim 68 wherein a subset of Items comprise Categories.

DOCKET NO.: MSFT-1749/302725.01
Application No.: 10/646,941
Office Action Dated: August 7, 2008

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84. (Original) The method of claim 68 wherein a subset of Items comprise Items that are not Item Folders or Categories.